



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PA 19406-1415**

December 28, 2009

EA-09-308  
EA-09-310

Mr. John Carlin  
Vice President  
R. E. Ginna Nuclear Power Plant, LLC  
1503 Lake Road  
Ontario, NY 14519

**SUBJECT: R. E. GINNA NUCLEAR POWER PLANT - NRC TRIENNIAL FIRE  
PROTECTION INSPECTION REPORT 05000244/2009006 AND EXERCISE OF  
ENFORCEMENT DISCRETION**

Dear Mr. Carlin:

On November 20, 2009, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your R. E. Ginna Nuclear Power Plant. The enclosed inspection report documents the inspection results, which were discussed on November 20, 2009, with Mr. E. Larson and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations, and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel. The scope of the inspection was reduced, in accordance with Inspection Procedure 71111.05TTP, "Fire Protection-NFPA 805 Transition Period (Triennial)," issued on May 9, 2006, as a result of your ongoing project to convert your fire protection program to the performance-based methodology as described in National Fire Protection Association Standard 805.

The report documents one NRC identified and one licensee identified violations for which the NRC is exercising enforcement discretion. The NRC is not taking enforcement action for these violations because they meet the criteria of the NRC Enforcement Policy, "Interim Enforcement Policy regarding Enforcement Discretion for Certain Fire Protection Issues (10 CFR 50.48)," and NRC Inspection Manual Chapter 0305, Section 12.01.b, "Violations in Specified Areas of Interest Qualifying for Enforcement Discretion."

J. Carlin

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In accordance with Title 10 of the Code of Federal Regulations Part 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS).

Sincerely,

A handwritten signature in black ink, appearing to read "Darrell J. Roberts", with a long horizontal flourish extending to the right.

Darrell J. Roberts, Director  
Division of Reactor Safety

Docket No. 50-244  
License No. DPR-18

Enclosure: Inspection Report No. 05000244/2009006  
w/Attachment: Supplemental Information

cc w/encl: Distribution via ListServ  
State of New York

J. Carlin

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Sincerely,

/RA/

Darrell J. Roberts, Director  
Division of Reactor Safety

Docket No. 50-244  
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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No. 50-244

License No. DPR-18

Report No. 05000244/2009006

Licensee: Constellation Energy Nuclear Group,  
R. E. Ginna Nuclear Power Plant, LLC

Facility: R. E. Ginna Nuclear Power Plant

Location: Ontario, New York

Dates: November 2 - 20, 2009

Inspectors: J. Lilliendahl, Reactor Inspector, DRS (Team Leader)  
L. Scholl, Senior Reactor Inspector, DRS  
K. Young, Senior Reactor Inspector, DRS

Approved by: John F. Rogge, Chief  
Engineering Branch 3  
Division of Reactor Safety

Enclosure

## SUMMARY OF FINDINGS

IR 05000244/2009006; 11/02/2009 – 11/20/2009; R.E. Ginna Nuclear Power Plant; Triennial Fire Protection Team Inspection.

The report covered a two-week triennial fire protection team inspection by specialist inspectors. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

Additionally, Constellation Energy Nuclear Group (CENG) has committed to converting the R. E. Ginna Nuclear Power Plant fire protection program to one which meets 10 CFR 50.48(c), National Fire Protection Association (NFPA) Standard 805. As a result of NRC enforcement policy changes applicable to plants in the process of transitioning to NFPA 805, two issues were identified and documented in this inspection report but are subject to enforcement discretion (Section 1R05.01 and 4OA7).

No findings of significance were identified.

## REPORT DETAILS

### Background

This report presents the results of a triennial fire protection inspection conducted in accordance with NRC Inspection Procedure (IP) 71111.05TTP, "Fire Protection-NFPA 805 Transition Period (Triennial)." The objective of the inspection was to assess whether CENG has implemented an adequate fire protection program and that post-fire safe shutdown capabilities have been established and were being properly maintained at the R. E. Ginna Nuclear Power Plant facility (Ginna). The following fire areas were selected for detailed review based on risk insights from the Individual Plant Examination (IPE)/Individual Plant Examination of External Events (IPEEE):

- FZ ABM
- FZ IBN-1
- FZ RR
- FZ SH-2

Inspection of these areas/zones fulfills the inspection procedure requirement to inspect a minimum of three samples.

The inspection team evaluated CENG's fire protection program against applicable requirements which included plant Technical Specifications, Operating License Conditions 2.C.3, NRC Safety Evaluations, 10 CFR 50.48, and 10 CFR 50, Appendix R. The team also reviewed related documents that included the Updated Final Safety Analysis Report (UFSAR), the Fire Hazards Analysis (FHA), and the post-fire safe shutdown analyses.

Specific documents reviewed by the team are listed in the attachment.

### 1. REACTOR SAFETY

#### **Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity**

#### 1R05 Fire Protection (IP 71111.05T)

#### .01 Post-Fire Safe Shutdown From Outside Main Control Room (Alternative Shutdown) and Normal Shutdown

##### a. Inspection Scope

##### Methodology

The team reviewed the safe shutdown analysis, operating procedures, piping and instrumentation drawings (P&IDs), electrical drawings, the UFSAR and other supporting documents to verify that hot and cold shutdown could be achieved and maintained for fires that rely on shutdown from outside the control room. This review included verification that shutdown from outside the control room could be performed both with

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and without the availability of offsite power. Plant walkdowns were also performed to verify that the plant configuration was consistent with that described in the safe shutdown and fire hazards analyses. These inspection activities focused on ensuring the adequacy of systems selected for reactivity control, reactor coolant makeup, reactor decay heat removal, process monitoring instrumentation, and support systems functions. The team verified that the systems and components credited for use during this shutdown method would remain free from fire damage. The team verified that the transfer of control from the control room to the alternative shutdown location(s) would not be affected by fire-induced circuit faults (e.g., by the provision of separate fuses and power supplies for alternative shutdown control circuits).

Similarly, for fire areas that utilize shutdown from the control room, the team also verified that the shutdown methodology properly identified the components and systems necessary to achieve and maintain safe shutdown conditions.

#### Operational Implementation

The team verified that the training program for licensed and non-licensed operators included alternative shutdown capability. The team also verified that personnel required for safe shutdown using the normal or alternative shutdown systems and procedures are trained and available onsite at all times, exclusive of those assigned as fire brigade members.

The team reviewed the adequacy of procedures utilized for post-fire shutdown and performed an independent walk through of procedure steps to ensure the implementation and human factors adequacy of the procedures. The team also verified that the operators could be reasonably expected to perform specific actions within the time required to maintain plant parameters within specified limits. Time critical actions, which were verified, included restoration of alternating current (AC) electrical power, establishing the remote shutdown and local shutdown panels, establishing reactor coolant makeup, and establishing decay heat removal.

Specific procedures reviewed for alternative shutdown, including shutdown from outside the control room included the following:

- ER-Fire.0, Control Room Response to Fire Alarms and Reports;
- ER-Fire.1, Alternate Shutdown for Control Complex Fire; and
- ER-Fire.3, Alternate Shutdown for Aux Building Basement/Mezzanine Fire.

The team reviewed manual actions to ensure that they had been properly reviewed and approved and that the actions could be implemented in accordance with plant procedures in the time necessary to support the safe shutdown method for each fire area. The team also reviewed the periodic testing of the alternative shutdown transfer capability and instrumentation and control functions to ensure the tests are adequate to ensure the functionality of the alternative shutdown capability.

b. Findings

Introduction. The team identified a violation of very low safety significance regarding the adequacy of post-fire safe shutdown analysis and associated operating procedures. Specifically, the safe shutdown analysis did not evaluate the potential for a steam generator overfill event causing the introduction of water into the turbine driven auxiliary feedwater (TDAFW) pump steam supply line. Water in this piping could result in the trip or failure of the turbine. The failure to evaluate and resolve the potential for a steam generator overfill event caused by a plant fire is a violation of License Condition 2.C.3 that requires that the licensee implement the fire protection program features. This issue was determined to satisfy the criteria specified for the exercise of enforcement discretion for plants in transition to a fire protection program that meets the requirements of 10 CFR 50.48(c), National Fire Protection Association Standard (NFPA) 805.

Description. The Ginna Station Fire Protection Program, Part IV, Safe Shutdown Analysis, states that for a control complex fire, decay heat removal will be provided by local operation of the TDAFW pump and associated valves. Plant procedure ER-Fire.1, Alternate Shutdown for Control Complex Fire, provides the instructions for plant operators to achieve cold shutdown conditions following a control room fire.

The team found that the potential for overfilling the steam generator(s), and the potential impact on post-fire safe shutdown, had not been evaluated in the safe shutdown analysis. The team also noted that procedure ER-Fire.1 did not include operator actions to secure the main feedwater pumps or to isolate feedwater flow to the steam generator(s) prior to evacuation of the control room. As a result, spurious component actuations (such as feedwater control valve opening caused by fire damage to cabling) could result in a rapid fill, and subsequent overfill, of the steam generator(s). One adverse impact on the plant safe shutdown capability resulting from steam generator overfill is that the steam line to the TDAFW pump could be flooded and cause damage to the steam turbine or require additional operator actions to restore operation of the TDAFW pump following mitigation of the overfill event.

In response to this issue, CENG entered the deficiency in the corrective action program by initiating condition report (CR) 2009-8557 and promptly implemented compensatory actions, including taking actions to revise the affected procedures.

Analysis. CENG's failure to properly evaluate and resolve the potential for a steam generator overfill event is a performance deficiency. This performance deficiency is more than minor because it was associated with the external factors attribute of the Mitigating Systems Cornerstone and adversely affected the objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. CENG entered this performance deficiency into their Corrective Action Program (CAP) (CR 2009-8557) and implemented compensatory measures to provide additional guidance to the control room operators. The team viewed these interim actions as appropriate until this issue is fully resolved as part of the licensee's NFPA 805 implementation program. In addition, CENG performed a bounding risk analysis of the potential steam generator overfill event. This bounding



analysis represented the cumulative risk for all potentially affected fire areas. No postulated individual fire area scenario was estimated to exceed the Green/White significance threshold. Review by the NRC Region I Senior Reactor Analyst (SRA) determined that the CENG risk estimate was appropriately conservative. The SRA concluded that a more detailed risk assessment using more accurate fire modeling and realistic risk values would confirm that this issue is of very low safety significance (Green). Cross-cutting aspects are not applicable as this issue is not indicative of current performance and also because the finding involves enforcement discretion.

Enforcement. License condition 2.C.3 requires that CENG implement and maintain in effect all fire protection features as approved by the NRC's Fire Protection Safety Evaluation (SE) and SE supplements, including NRC SE dated February 27, 1985. NRC SE dated February 27, 1985, states that the licensee identified associated circuits that could prevent operation or cause maloperation of shutdown systems and equipment, and protection was provided for the safe shutdown systems accordingly. Contrary to the above, CENG failed to evaluate and resolve the potential impact of a steam generator overfill event caused by spurious actuations resulting from control complex (an alternate shutdown area) fire damage. Although the performance deficiency involves a violation of License Condition 2.C.3; no enforcement action will be taken for this issue because the criteria of NRC Enforcement Policy, "Interim Enforcement Policy Regarding Enforcement Discretion for Certain Fire Protection Issues (10 CFR 50.48)," were satisfied. Specifically: 1) although the NRC identified the concern, it is likely that CENG would have identified and corrected this issue as part of the transition to NFPA 805; 2) CENG entered the issue into their CAP and implemented compensatory measures in a reasonable time commensurate with the risk significance; 3) this issue was not likely to have been previously identified by routine CENG activities; and, 4) the violation was not willful. Because all the criteria were met, the NRC is exercising enforcement discretion for this issue.

## .02 Protection of Safe Shutdown Capabilities

### a. Inspection Scope

The team reviewed the FHA, safe shutdown analyses and supporting drawings and documentation to verify that safe shutdown capabilities were properly protected. The team ensured that separation requirements of Section III.G of 10 CFR 50, Appendix R were maintained for the credited safe shutdown equipment and their supporting power, control and instrumentation cables. This review included an assessment of the adequacy of the selected systems for reactivity control, reactor coolant makeup, reactor heat removal, process monitoring, and associated support system functions.

The team reviewed the licensee's procedures and programs for the control of ignition sources and transient combustibles to assess their effectiveness in preventing fires and in controlling combustible loading within limits established in the FHA. A sample of hot work and transient combustible control permits were also reviewed. The team performed plant walkdowns to verify that protective features were being properly maintained and administrative controls were being implemented.

b. Findings

No findings of significance were identified.

.03 Passive Fire Protection

a. Inspection Scope

The team walked down accessible portions of the selected fire areas to observe material condition and the adequacy of design of fire area boundaries (including walls, fire doors and fire dampers), and electrical raceway fire barriers to ensure they were appropriate for the fire hazards in the area.

The team reviewed installation/repair and qualification records for a sample of penetration seals to ensure the fill material was of the appropriate fire rating and that the installation met the engineering design. The team also reviewed similar records for the fire protection wraps to ensure the material was of an appropriate fire rating and that the installation met the engineering design.

b. Findings

No findings of significance were identified.

.04 Active Fire Protection

a. Inspection Scope

The team reviewed the design, maintenance, testing, and operation of the fire detection and suppression systems in the selected plant fire areas. This included verification that the manual and automatic detection and suppression systems were installed, tested, and maintained in accordance with the NFPA code of record, or as NRC approved exemptions, and that each suppression system would control and/or extinguish fires associated with the hazards in the selected areas. A review of the design capability of the suppression agent delivery systems were verified to meet the code requirements for the hazards involved. The team also performed a walkdown of accessible portions of the detection and suppression systems in the selected areas as well as a walkdown of major system support equipment in other areas (e.g. fire pumps, Halon and/or carbon dioxide (CO<sub>2</sub>) storage tanks and supply system) to assess the material condition of the systems and components.

The team reviewed electric and diesel fire pump flow and pressure tests to ensure that the pumps were meeting their design requirements. The team also reviewed the fire main loop flow tests to ensure that the flow distribution circuits were able to meet the design requirements.

The team assessed the fire brigade capabilities by reviewing training, qualification, and drill critique records. The team also reviewed pre-fire plans and smoke removal plans for the selected fire areas to determine if appropriate information was provided to fire

brigade members and plant operators to identify safe shutdown equipment and instrumentation, and to facilitate suppression of a fire that could impact post-fire safe shutdown capability. In addition, the team inspected the fire brigade equipment (including smoke removal equipment) to determine operational readiness for fire fighting.

b. Findings

No findings of significance were identified.

.05 Protection From Damage From Fire Suppression Activities

a. Inspection Scope

The team performed document reviews and plant walkdowns to verify that redundant trains of systems required for hot shutdown are not subject to damage from fire suppression activities or from the rupture or inadvertent operation of fire suppression systems. Specifically, the team verified that:

- A fire in one of the selected fire areas would not directly, through production of smoke, heat or hot gases, cause activation of suppression systems that could potentially damage all redundant safe shutdown trains.
- A fire in one of the selected fire areas (or the inadvertent actuation or rupture of a fire suppression system) would not directly cause damage to all redundant trains (e.g. sprinkler caused flooding of other than the locally affected train).
- Adequate drainage is provided in areas protected by water suppression systems.

b. Findings

No findings of significance were identified.

.06 Alternative Shutdown Capability

a. Inspection Scope

Alternative shutdown capability is discussed in section 1R05.01 of this report.

.07 Circuit Analysis

NRC Inspection Procedure 71111.05TTP, "Fire Protection-NFPA 805 Transition Period (Triennial)," reduces the scope of this inspection by specifically excluding review of circuit configurations for plants transitioning their fire protection program to the requirements of NFPA 805.

.08 Communications

a. Inspection Scope

The team reviewed safe shutdown procedures, the safe shutdown analysis, and associated documents to verify an adequate method of communications would be available to plant operators following a fire. During this review the team considered the effects of ambient noise levels, clarity of reception, reliability, and coverage patterns. The team also inspected the designated emergency storage lockers to verify the availability of portable radios for the fire brigade and for plant operators. The team also verified that communications equipment such as repeaters and transmitters would not be affected by a fire.

b. Findings

No findings of significance were identified.

.09 Emergency Lighting

a. Inspection Scope

The team observed the placement and coverage area of eight-hour emergency lights throughout the selected fire areas to evaluate their adequacy for illuminating access and egress pathways and any equipment requiring local operation and/or instrumentation monitoring for post-fire safe shutdown. The team also verified that the battery power supplies were rated for at least an eight-hour capacity. Preventive maintenance procedures, the vendor manual, completed surveillance tests, and battery replacement practices were also reviewed to verify that the emergency lighting was being maintained in a manner that would ensure reliable operation.

b. Findings

No findings of significance were identified.

.10 Cold Shutdown Repairs

a. Inspection Scope

The team verified that the licensee had dedicated repair procedures, equipment, and materials to accomplish repairs of components required for cold shutdown which might be damaged by the fire to ensure cold shutdown could be achieved within the time frames specified in their design and licensing bases. The team verified that the repair equipment, components, tools, and materials (e.g. pre-cut cables with prepared attachment lugs) were available and accessible on site.

b. Findings

No findings of significance were identified.

.11 Compensatory Measures

a. Inspection Scope

The team verified that compensatory measures were in place for out-of-service, degraded or inoperable fire protection and post-fire safe shutdown equipment, systems, or features (e.g. detection and suppression systems and equipment, passive fire barriers, or pumps, valves or electrical devices providing safe shutdown functions or capabilities). The team also verified that the short term compensatory measures compensated for the degraded function or feature until appropriate corrective action could be taken and that the licensee was effective in returning the equipment to service in a reasonable period of time.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES [OA]

4OA2 Identification and Resolution of Problems

.01 Corrective Actions for Fire Protection Deficiencies

a. Inspection Scope

The team verified that the licensee was identifying fire protection and post-fire safe shutdown issues at an appropriate threshold and entering them into the corrective action program. The team also reviewed a sample of selected issues to verify that the licensee had taken or planned appropriate corrective actions.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

The team presented their preliminary inspection results to Mr. E. Larson, Plant Manager, and other members of the site staff at an exit meeting on November 20, 2009. No proprietary information was included in this inspection report.

4OA7 Licensee-Identified Violations

The following violation was identified by CENG and is a violation of NRC requirements which met the criteria of the NRC Enforcement Policy for disposition as a Non-Cited Violation (NCV).

License Condition 2.C.3 requires that CENG implement and maintain in effect all fire protection features as approved by the NRC's Fire Protection Safety Evaluation (SE) and SE supplements, including NRC SE dated February 27, 1985. NRC SE dated February 27, 1985, states that the licensee identified associated circuits that could prevent operation or cause maloperation of shutdown systems, and that the licensee provided protection for the affected safe shutdown systems. Contrary to the above, as part of the transition to NFPA 805, CENG identified potential fire induced spurious operations which could negatively affect the fire safe shutdown systems which were not previously protected against. Specifically:

- Spurious motor operated valve failure, preventing the isolation of letdown which could result in excessive inventory loss
- Spurious isolation of the credited charging pump's suction source which could result in damaging the credited makeup source
- Spurious emergency diesel generator (EDG) "A" output breaker closing which could result in damaging the EDG "A"
- Spurious emergency diesel generator (EDG) "B" output breaker closing which could result in damaging the EDG "B"
- Spurious closure of TDAFW pump discharge valve which could result in loss of decay heat removal
- Spurious closure of standby auxiliary feedwater (SAFW) pump discharge and suction valves which could prevent transitioning into cold shutdown

Although the performance deficiency involves a violation of License Condition 2.C.3; no enforcement action will be taken for this issue because the criteria of NRC Enforcement Policy, "Interim Enforcement Policy Regarding Enforcement Discretion for Certain Fire Protection Issues (10 CFR 50.48)," were satisfied. Specifically: 1) CENG identified and will correct this issue as part of the transition to NFPA 805; 2) CENG entered the issue into their CAP (CR Nos. 2009-5923, 6284, 6291, 6295, 7542, 7584) and implemented compensatory measures in a reasonable time commensurate with the risk significance; 3) this issue was not likely to have been previously identified by routine CENG activities; and, 4) the violation was not willful. CENG performed a bounding risk assessment of each potential spurious actuation event. Individual postulated fire area scenarios were estimated to be near or below the Green/White significance threshold. Review by the NRC Region I SRA concluded that CENG's bounding analysis assumptions were conservative and that a more accurate fire model and realistic risk values would likely confirm that this issue is of very low safety significance (Green). Because all the criteria were met, the NRC is exercising enforcement discretion for this issue.

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

**SUPPLEMENTAL INFORMATION**

**KEY POINTS OF CONTACT**

**Licensee Personnel**

E. Larson	Plant Manager
L. Brennan	Fire Safety Instructor
B. Cooper	Fire Protection Engineering Consultant
D. Crowley	HVAC Systems Engineer
M. Edelstein	Fire Marshal
B. Hunn	Design Engineering
J. Jackson	Design Engineering
M. McGraw	Fire Protection Engineer
K. McLaughlin	Operations
N. Meaker	Operations Training
M. Ruby	Licensing Engineer
J. Sharlow	Fire Protection Specialist
S. Wihlen	Maintenance, Supervisor

**NRC**

J. Rogge, Chief, Engineering Branch 3, Division of Reactor Safety  
W. Cook, Senior Reactor Analyst, Division of Reactor Safety  
K. Kolaczyk, Senior Resident Inspector, Ginna Nuclear Power Plant  
L. Casey, Resident Inspector, Ginna Nuclear Power Plant

**LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**

None

## LIST OF DOCUMENTS REVIEWED

### Fire Protection License Basis Documents

R.E. Ginna Nuclear Power Plant Fire Protection Program, Rev. 5a  
R.E. Ginna Nuclear Power Plant Updated Final Safety Analysis Report, Section 9.5  
R.E. Ginna Nuclear Power Plant Technical Requirements Manual, Rev. 37  
SER Dated 2/14/79, Fire Protection – Ginna  
SER Dated 12/17/80, Fire Protection – Ginna  
SER Dated 2/6/81, Fire Protection – Ginna  
SER Dated 6/22/81, Fire Protection – Ginna  
SER Dated 2/27/85, Safety Evaluation for Appendix R to 10CFR Part 50, Items III.G.3 & III.L  
SER Dated 3/21/85, Exemptions to Section III.G of Appendix R

### Calculations/Engineering Evaluation Reports

1-DC-165-C38-2-0, Appendix R Water Curtain, Rev. A  
DA-EE-09-041, Evaluate Emergency Diesel Generator B Spurious Starting, Rev. 0  
DA-EE-2000-066, Appendix R Conformance Analysis, Rev. 2  
DA-EE-2001-003, Suppression Effects on Safe Shutdown Electrical Equipment with Spray Shields, Rev. 0  
DA-ME-2000-001, City Yard Loop Capability to Supply Cooling Water to EDG, SAFW & to Fight Screen House Fire with Loss of Service Water, Rev. 4  
DA-ME-2000-075, Pressurizer, Volume Control Tank and RWST Evaluations for Appendix R, Rev. 2  
DA-ME-93-108, Diesel Fire Pump Fuel Consumption Calculations, Rev. 1  
DA-ME-94-082, Fire Protection 86-10 Evaluations of Various Issues & IDR 92-0068 Resolution, Rev. 1  
DA-ME-94-118-01, Fire Barrier Penetration Seal Qualification Analysis for Permanent Mortar Seals (PENQ-01), Rev. 0  
DA-ME-94-118-05, Design Analysis for PENQ-05 Cable Tunnel/Auxiliary Building Smoke Barrier, Rev. 0  
DA-NS-2002-008, Operator Action Time Requirement Evaluation, Rev. 5  
DA-NS-97-053, Evaluation of Ability of Steam Generators to Remove Decay Heat by Boil-off With Auxiliary Feedwater Unavailable, Rev. 0  
FTI 32-5009845-00, Ginna Safe Shutdown RELAP5 Analysis, Rev. 0  
Initial Discharge Test, Total Flooding of Relay Room with Halon 1301, 5/21/84  
M-026, Steam Generator Dry-Out Time Assuming No Feedwater Addition Under EPU Conditions, Rev. 0



Condition Reports

2006-000888	2009-007542	2009-008556*	2009-008721*
2006-002366	2009-007584	2009-008557*	2009-008727*
2007-005353	2009-008419*	2009-008605*	2009-008741*
2009-003613	2009-008432*	2009-008610*	2009-008742*
2009-005923	2009-008433*	2009-008652*	2009-008745*
2009-006284	2009-008454*	2009-008717*	2009-008758*
2009-006291	2009-008464*	2009-008718*	2009-008759*
2009-006295	2009-008532*	2009-008719*	

\* CRs identified as a result of this inspection.

Completed Tests/Surveillances

FPS-2.1, Control of UFSAR/TRM and 10CFR50 Appendix R Fire Barriers, Rev. 00800, completed 11/29/07

FPS-2.2, Control & Verification of Non-UFSAR/TRM and NON 10CFR50 Appendix R Fire Barriers, Rev. 00600, completed 10/29/07

FPS-2.3, Temporary Fire Barrier Penetration Seals Program, Rev. 00600, completed 6/25/08

FPS-15, Fire Door Identification, Inspection and Maintenance, Rev. 02703, completed 10/19/09

O-2.2.1, Verification of Locally Operated Components, Rev. 00601, completed 4/21/08

PT-13.1, Annual Fire Pump Surveillance Test, Rev. 03402, completed 12/31/08 and 1/2/08

PT-13.2, Diesel Fire Pump Standard Protection Test, Rev. 02101, completed 12/21/08

PT-13.22, Fire System Flow Alarm Check #S24, #S25, #S27, Rev. 03001, completed 7/26/09

PT-13.22, Fire System Flow Alarm Check #S14, Rev. 03001, completed 7/26/09

PT-13.22.1, Fire System Flow Alarm Check #S05, #S15, Rev. 01603, completed 8/22/09

PT-13.22.1, Fire System Flow Alarm Check #Z9, Rev. 01602, completed 2/05/09

PT-13.22.1, Fire System Flow Alarm Check #S01, #S03, #S04, Rev. 01602, completed 4/15/09

PT-13.22.1, Fire System Flow Alarm Check #09, #10, #11, Rev. 01603, completed 5/14/09

PT-13.22.1, Fire System Flow Alarm Check #12, #13, #16, Rev. 01603, completed 7/03/09

PT-13.22.1, Fire System Flow Alarm Check #06, Rev. 01603, completed 7/07/09

PT-13.22.1, Fire System Flow Alarm Check #17, Rev. 01602, completed 12/18/08

STP-O-13, Fire Pump Operation & System Alignment, Rev. 00004, completed 6/21/09, 7/18/09, and 8/15/09

STP-O-13.1.17, Deluge Valve System Resetting Only System Numbers S12, S13, Rev. 00000, completed 5/7/08

STP-O-13.4, Diesel Driven Portable Pump Test, Rev. 00201, completed 6/12/09

STP-O-13.9, Fire System Valve Cycling, Rev. 00000, Completed 12/31/08

STP-O-13.11.5, Z26 Zone Smoke Detection Testing (Screenhouse Upper Level), Rev. 00000, completed 12/16/08

STP-O-13.11.6.1, Z38D1 Zone Smoke Detection Testing (Intermediate Building – South Basement, Hot Side), Rev. 00000, completed 5/4/09

STP-O-13.11.26, Z44 Zone Smoke Detection Testing (Relay Room Annex), Rev. 00000, completed 2/9/09

Piping and Instrumentation Diagrams

33013-1231, Main Steam, Rev. 37  
 33013-1234, Condensate Storage, Rev. 40  
 33013-1237, Auxiliary Feedwater, Rev. 55  
 33013-1238, Standby Auxiliary Feedwater, Rev. 26  
 33013-1239, Sheet 1, Diesel Generator-A, Rev. 25  
 33013-1239, Sheet 2, Diesel Generator-B, Rev. 22  
 33013-1245, Auxiliary Coolant - Component Cooling Water, Rev. 32  
 33013-1247, Auxiliary Coolant - Residual Heat Removal, Rev. 44  
 33013-1250, Sheet 1, Station Service Cooling Water, Rev. 52  
 33013-1250, Sheet 2, Station Service Cooling Water, Rev. 36  
 33013-1250, Sheet 3, Station Service Cooling Water, Rev. 32  
 33013-1258, Reactor Coolant - Pressurizer, Rev. 24  
 33013-1260, Reactor Coolant, Rev. 25  
 33013-1265, Sheet 1, Chemical and Volume Control System - Charging, Rev. 11  
 33013-1265, Sheet 2, Chemical and Volume Control System - Charging, Rev. 22

Drawings and Wiring Diagrams

03200-0102, AC Power Distribution Panels One-Line Diagram, Rev. 29  
 03201-0102, 120 VAC Instrument Bus one-Line Diagram, Rev. 22  
 03202-0102, 125 VDC Power Distribution System One-Line Diagram, Rev. 17  
 10904-0164, 480 Volt Motor Control Center C Schedule, Rev. 27  
 10904-0165, 480 Volt Motor Control Center C Schedule, Rev. 31  
 10904-0166, 480 Volt Motor Control Center C Schedule, Rev. 21  
 10904-0175, 480 Volt Motor Control Center H Schedule, Rev. 19  
 10904-0176, 480 Volt Motor Control Center J & K Schedule, Rev. 29  
 10904-0177, 480 Volt Motor Control Center L Schedule, Rev. 16  
 10904-0705, 480 Volt Motor Control Center N Schedule, Rev. 3  
 10909-1, DC System Fuse Reference - Rack RA1, Rev. 8  
 10909-2, DC System Fuse Reference - Rack RA2, Rev. 5  
 10909-3, DC System Fuse Reference - Rack RA3, Rev. 4  
 21488-0100, Fire, Smoke, and Pressures Barriers, ELEV. 253' 6", Rev. 13  
 21946-0611, RHR Pump Suction From RWST MOV-856 Control Schematic, Rev. 7  
 33013-1242, Fire Protection Relay & Multiplexer Rooms (Halon), Rev. 5  
 33013-1867, Sh. 1, Control Room Emergency Zone & Control Room Emergency Air Treatment System (CREATS), Rev. 3  
 33013-1867, Sh. 2, Control Room Emergency Zone & Control Room Emergency Air Treatment System (CREATS), Rev. 0  
 33013-1867, Sh. 3, Control Room Emergency Zone & Control Room Emergency Air Treatment System (CREATS), Rev. 3  
 33013-1974, Technical Support Center Power Distribution One-Line Diagram, Rev. 30  
 33013-1988, Fire Service Water Supply to Sprinkler Systems & Hose Reel Stations, Rev. 8  
 33013-1989, Fire Protection Systems, Fire Service Water Plant Systems, Rev. 27  
 33013-1990, Sh. 1 & Sh. 2, Fire Protection Systems, Fire Service Water, Turbine Building and TSC, Rev. 15 & Rev. 8

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33013-1991, Fire Protection, Fire Service Water, Aux. Bldg., Intermediate Bldg., Containment Bldg, Rev. 21  
33013-1992, Fire Protection Systems, Fire Service Water, Fire Water Header "A" Auxiliary Building Header, Rev. 13  
33013-1993, Sh. 2, Fire Protection Systems, Fire Service Water, Header "B", Rev. 10  
33013-2545, Fire Response Plan, CNMT, Structure & Intermediate BLDG., Intermediate Floor EL. 253' 3", Rev. 9  
33013-2546, Fire Response Plan, Auxiliary Building, Intermediate Floor EL. 253', Rev. 4  
33013-2559, Fire Response Plan, Control Building, Plan Views, Rev. 13  
33013-2571, Fire Response Plan, Screen House, Above EL. 253' 6", Rev. 6

### Fire Brigade Drills/Critiques

Control Air Handling Room Fire with Missing Guard, conducted 9/19/07  
Service Building Dosimetry Office, conducted 12/16/08  
Administration Building Fire, conducted 6/4/09  
Screen House Basement East, Sodium Hypochlorite Pumps, conducted 7/15/09  
GE Betz Fire, conducted 8/12/09  
"A" Diesel Fire, conducted 8/14/09  
Oil Storage Room Fire, conducted 8/26/09  
Hydrogen Fire – Seal Oil Unit, conducted 8/26/09

### Fire Brigade Lesson Plans

FFB33C, Emergency Fire Equipment Inventory & Inspection, 3/9/09  
FFB98C, Charging Air Cylinders by Cascade System, 4/14/09  
LP FFB26C, Fire Barrier/Penetration Seal Inspection, Rev. 01  
LP FFB30C, Fire Response Plans, Rev. 01  
LP FFB31C, Fire Brigade Responsibilities, Rev. 09  
LP FFB36C, Fire Brigade Response, Rev. 03  
LP FFB39C, Use, Care, & Maintenance of Fire Extinguishers, Rev. 04  
LP FFB46C, Emergency Lighting, Rev. 03  
LP N1530, Fire School Live Practical Evaluations, Rev. 1

### Fire Response Plans

FRP-5.0, Auxiliary Building Intermediate Floor, Rev. 0800  
FRP-6.0, Auxiliary Building Operating Floor, Rev. 6  
FRP-7.0, Intermediate Building Sub-Basement, Rev. 7  
FRP-8.0, Intermediate Building Controlled Side Basement, Rev. 6  
FRP-9.0, Intermediate Building Controlled Side Operating Floor, Rev. 7  
FRP-11.0, Intermediate Building Clean Side Basement, Rev. 00901  
FRP-19.0, Relay Room/Multiplexer Room/Annex Room, Rev. 0900  
FRP-31.0, Screenhouse Operating Floor, Rev. 7  
FRP-32.0, Transformer Yard, Rev. 6

Hot Work and Ignition Source Permits

09-862  
09-863  
09-864  
09-865  
09-866  
2009-0012  
2009-0013  
2009-0014  
2009-0015  
2009-0029

Operator Safe Shutdown Training

JA064.004, Start "A" EDG Locally per ER-Fire.1, Rev. 11  
JA064.007, Start & Loading of Emergency Diesel Generator "B" from MCB per ER-Fire.4, Rev. 3  
JO14.006, Install Spare Source Range Drawer (ER-Fire.1), Rev. 1  
OTG-12.0, Licensed Operator Regualification Training Schedule, Rev. 10  
RSC06C, Appendix R – Alternative Shutdown Lesson Plan, Rev. 0  
RSC62D, Appendix R – Alternative Shutdown Lesson Plan, Rev. 5  
RSC07C, Fire Emergency Plan Lesson Plan, Rev. 0

Procedures

A-103.9, Fire Brigade Training, Rev. 18  
A-202, The Fire Protection Program & Ginna Station Staff Responsibilities for Fire Protection, Rev. 02800  
A-601.9, EOP/AOP Support Documentation Control, Rev. 00602  
AP-SW.2, Loss of Service Water, Rev. 00801  
ATT-5.2, Alternate Cooling to TDAFW Pump, Rev. 6  
EP-3-P-0180, Fire Water System Corrosion Monitoring Program, Rev. 00000  
ER-AFW.1, Alternate Water Supply to the AFW Pumps, Rev. 03002  
ER-D/G.2, Alternate Cooling for Emergency D/Gs, Rev. 01800  
ER-Fire.0, Control Room Response to Fire Alarms and Reports, Rev. 00902  
ER-Fire.1, Alternate Shutdown for Control Complex Fire, Rev. 2804  
ER-Fire.3, Alternate Shutdown for Aux Building Basement/Mezzanine Fire, Rev. 02700  
ER-SH.1, Response to Loss of Screenhouse, Rev. 2  
ND-FPP, Fire Protection Program, Rev. 01400  
SC-3, Site Contingency Plan – SC-3 Fire Emergency Plan, Rev. 39

Miscellaneous

Appendix R Emergency Battery Light 6 Month PM Test Instructions, 10/12/09  
Fire Door Data Sheet, Fire Door F36 Turbine Bldg. to Intermediate Bldg, Basement 253' 6"  
Ginna Aux. Operator Qualification Status, 11/16/09  
Penetration Seal Number RR-16-P Data Sheet, Installed 11/19/90  
Penetration Seal Number RR-45-P Data Sheet, Installed 4/1/80

Penetration Seal Number RR-103-P Data Sheet, Installed 5/7/80  
VHF Radio System, RF Transmission Test Results/Summary Findings & Recommendations (Pre  
Mod Installation), Rev. 2  
VHF Radio System, Post System Deployment RF Report, 2/9/09

Quality Assurance Audits and Self Assessments

FPP-07-01-G, Fire Protection Audit, 7/13/07  
FPP-09-01-G, Fire Protection Audit, 9/11/09  
SA-2009-000049, Focused Self Assessment, 10/13/09

System Health Reports

1<sup>st</sup> Quarter System Health Report, Fire Protection System  
1<sup>st</sup> Quarter System Health Report, Emergency Lighting System  
2<sup>nd</sup> Quarter System Health Report, Fire Protection System  
2<sup>nd</sup> Quarter System Health Report, Emergency Lighting System

Vendor Manuals

VTD-D1140-4001, Safety Emergency Light Surveillance, Rev. 02107  
VTD-D1140-4201, Dual-Lite Spectron Series, Emergency Lighting Service Manual, Rev. 0  
VTD-D1140-4301, Spectron Series, Self Contained Emergency Lighting Units, Rev. 0  
VTD-D1140-4401, Spectron Industrial Series, Self-Test Self-Diagnostic Emergency Lighting  
Equipment – Instructions for Installation-Operation-Maintenance, Rev. 001

Work Orders

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20301528

**LIST OF ACRONYMS**

AC	Alternating Current
ADAMS	Agencywide Documents Access and Management System
BTP	Branch Technical Position
CENG	Constellation Energy Nuclear Group
CFR	Code of Federal Regulations
CO <sub>2</sub>	Carbon Dioxide
CR	Condition Report
DRP	Division of Reactor Projects
DRS	Division of Reactor Safety
EC	Engineering Change
FHA	Fire Hazards Analysis
FPP	Fire Protection Program

FZ	Fire Zone
HVAC	Heating, Ventilaion, and Air Conditioning
IP	Inspection Procedure
IPE	Individual Plant Examination
IPEEE	Individual Plant Examination of External Events
IR	Inspection Report
JPM	Job Performance Measure
NCV	Non-Cited Violation
NFPA	National Fire Protection Association
NRC	Nuclear Regulatory Commission
P&ID	Piping and Instrumentation Drawing
PAR	Publicly Available Records
QA	Quality Assurance
RPV	Reactor Pressure Vessel
SBO	Station Blackout
SCBA	Self-Contained Breathing Apparatus
SE	Safety Evaluation
SER	Safety Evaluation Report
SRA	Senior Risk Analyst
SUNSI	Sensitive Unclassified Non-Safeguards Information
UFSAR	Updated Final Safety Analysis Report